

a yellow discal band with blackish external margin, very slender upon primaries, but widened into an elongated triangular patch upon the secondaries, bounded outwardly upon the primaries by three dark brown spots and towards apex of secondaries by a large dark brown patch; external border bronzy, fringe varied with white; primaries with a small red-brown reniform spot with pale border. Under surface sordid white; wings with blackish apical patches, fringe snow-white at apex. Expanse of wings 11 lines.

One example. Kurrachee, October.

There are also two specimens in Mr. Moore's collection. This genus much resembles in marking the Noctuid group *Microphysa*, but differs in its much longer and thicker palpi.

#### Asopiidæ.

##### 30. *Hymenia fascialis*, Cramer.

Three specimens. Kurrachee, June and October.

#### Botydidæ.

##### 31. *Botys iopasalis*, Walker.

Three specimens. Kurrachee, September and October.

##### 32. *Godara comalis*, Guénée.

Two specimens. Kurrachee, October.

#### Tineidæ.

##### 33. *Alavona barbarella*?, Walker.

Matheran, May 1879.

I cannot be perfectly certain of the identification of this species, owing to the rubbed condition of the type and the difficulty of tracing the markings in any but very good specimens of this genus.

XXIII.—*On a Collection of Crustacea from the Malaysian Region*.—Part I. *Crustacea Oxyryncha and Cyclometopa, except Telpusidea*. By EDWARD J. MIERS, F.L.S., F.Z.S.

[Plate XIII.]

THE present paper, which will be continued in succeeding numbers of the 'Annals,' will contain a complete enumeration, with notes and descriptions (where needed), of the Crus-

tacea recently selected from the collection of the late Dr. P. Bleeker, the eminent ichthyologist, for the British Museum. This collection is of much interest, not merely on account of the new and undescribed species included in it, which, as was to be expected in a collection from a region so thoroughly worked, are not very numerous, but also on account of the many species it contains which have been hitherto *desiderata* to the Museum collection. Amongst these are several of the Maiioidea, and fourteen out of sixteen species of Isopoda (Cymothoidea) parasitic on fishes, described by Dr. Bleeker in his two memoirs, entitled "Sur les Décapodes Oxyrhinques et les Isopodes Cymothoadiens de l'archipel Indien"\*.

To avoid needless repetition I have seldom given references to the literature, except in those not unfrequent cases where I have been enabled to correct the synonyma or bring together species which appear to have been based on characters of insufficient value.

The exact localities were unfortunately not marked on all the bottles in Dr. Bleeker's collection; but those which were not more particularly labelled were marked as containing "Crustacea Indo-Archipelagica;" and therefore no doubt can be entertained of the Malaysian habitat of all the species.

#### OXYRHYNCHA *vel* MAIOIDEA.

##### *Doclea brachyrhynchus*.

*Doclea brachyrhynchus*, Bleeker, Act. Soc. Indo-Néerl. ii. p. 14 (1857).

*Doclea sebæ*, Bleeker, *l. c.* p. 13 (1857), junior.

An adult male, agreeing well with Bleeker's description, is in the collection, without special locality. A second male example agrees with the description of *Doclea sebæ*; and a comparison of the two specimens leaves little doubt in my mind that this latter species must be united with *D. brachyrhynchus* as having been established upon younger examples. The only character by which *D. sebæ* is distinguished, viz. the somewhat shorter, slenderer chelipedes, with fingers meeting along their inner margins, cannot be considered of specific value.

##### *Doclea macracantha*.

*Doclea macracanthus*, Bleeker, Act. Soc. Indo-néerl. ii. p. 10 (1857).

? *Doclea microchir*, Bleeker, *l. c.* p. 11 (1857), junior?

A small male example, without special indication of locality, agrees very well with Bleeker's description. As far as can be judged from the description, *D. microchir*, Bleeker, which

\* Acta Soc. Sci. Indo-Néerlandicæ, Deel ii (1857).

is mainly distinguished by the relatively longer spines of the carapace and shorter legs of the second pair, is not specifically distinct. Amboina is mentioned by Bleeker as the habitat of the first, and W. Sumatra (Padang) as the habitat of the second species.

*Micippa cristata* (Linn.).

Java, a fine adult male.

*Tiarinia cornigera*?

? *Pisa cornigera*, Latr. Encycl. Méth. x. p. 141 (1825).

? *Pericera cornigera*, M.-Edwards, Hist. Nat. Crust. i. p. 335 (1834).

*Tiarinia cornigera*, Dana, U.S. Expl. Exp. Cr. i. p. 110, pl. iii. fig. 5 (1852).

Carapace broadly pyriform, narrowing rapidly from the middle of the branchial region (where it attains its greatest width) to the orbits, covered with more or less conical and acute irregularly-disposed unequal tubercles; three more prominent and rounded tubercles are placed in the middle of the cardiac region, and three in a transverse series on the posterior margin. The rostrum is imperfect; but from the single spine remaining it is probable that the rostral spines were parallel to their apices, straight and shorter than the width of the interorbital part of the carapace. There is a small supra-ocular spine; the anterior legs are robust; the arm irregularly tuberculated; wrist nearly smooth; palm smooth, enlarged, compressed, longer than broad; fingers arcuate and meeting only at the apices; on the inner margin of the upper finger near the base is a small tubercle; the first ambulatory legs are considerably elongated. Length to base of rostrum 1 inch  $3\frac{1}{2}$  lines, breadth 1 inch  $2\frac{1}{2}$  lines.

Java, Karangbollong (one adult male).

The descriptions of Latreille's and Milne-Edwards's *P. cornigera* are not sufficiently detailed for me to be certain that I am right in referring the example described above to it; it is, however, probably identical with the specimen described and figured by Dana as *T. cornigera* (Cr. U.S. Expl. Exp. xiii. p. 110, pl. iii. fig. 5, 1852), although the tubercles of the carapace are apparently more numerous.

CYCLOCÆLOMA, gen. nov.

Carapace suboblong, somewhat elongated, rounded behind and slightly constricted behind the orbits, which are tubular, projecting laterally, without spines, and with a small circular opening as in many Periceridæ. Spines of rostrum very small. Basal joint of antennæ very greatly enlarged, as in *Othonia*,

the next joint enlarged but more elongated and less dilated than in that genus. Ischium-joint of outer maxillipedes small and narrow; merus-joint somewhat produced at its antero-external angle, as in *Othonia*. Anterior legs (in the male) small and slender; palm smooth and not dilated, twice as long as the fingers, which are excavated on their inner margins towards the apices, which, however, are acute. Ambulatory legs of moderate length. Postabdomen (of male) with all the segments distinct.

This interesting transitional form must be placed in the sub-family Othoniinae (as characterized in my recent revision of the Maiioidea, a group hitherto restricted to the single West-Indian genus *Othonia*). From that genus it is distinguished by the more elongated carapace, which is not armed with lateral spines, the more distinct rostral spines, less dilated third antennal joints, and non-dilated anterior legs of the male. It is very distinctly related to *Criocarcinus* and *Pseudomicippe* in the family Maiidæ; the inferior hiatus of the tubular orbits in *Criocarcinus*, however, is closed in *Othonia* and *Cycloceloma*.

*Cycloceloma tuberculatum*, sp. n.

(Pl. XIII. figs. 1, 2.)

Carapace armed with tubercles disposed as follows:—five tubercles, of which the median is the largest, on the front of the gastric region, and posterior to these four large rounded elevations in a median series, viz. one on the gastric, one on the cardiac, one on the intestinal region, and one on the posterior margin; there is a prominent rounded tubercle on each hepatic region, and about four on each branchial region, of which one is much larger than the rest. The spines of the rostrum are subacute and separated by a narrow median fissure. The slender palm or penultimate joint of the anterior legs about equals the arm in length, and is smooth, not compressed or dilated; the fingers are shorter than the palm. The small terminal claw of the ambulatory legs is but slightly incurved. Length  $1\frac{3}{4}$  inch, breadth 1 inch.

Amboina (an adult male).

The single example has a short series of stiff curled hairs on the front of the gastric and cardiac regions and on the sides of the branchial regions. The first free antennal joint is narrowest at base and dilated toward the distal end, where it is about half as broad as long; thus it differs markedly from the slender form of certain species of *Macroceloma* in the Periceridæ, to which this genus bears some external resemblance. In *Macroceloma*, moreover, the rostrum

is always much more considerably developed, and there is a distinct spine at the end of the basal antennal joint.

*Lambrus contrarius* (Herbst).

A male and female are retained for the Museum. No definite locality was preserved; but Bleeker states that this species is not uncommon at the Moluccas. A comparison of the Malaysian examples with specimens from the Mauritius convinces me of the correctness of Bleeker's determination.

*Lambrus lamelliger*.

*Lambrus lamelliger*, White, P. Z. S. p. 58 (1847).

*Lambrus lamellifrons*, Adams and White, Zool. Samarang, Crust. p. 26, pl. v. fig. 1 (1848).

*Lambrus Rumphii*, Bleeker, Act. Soc. Indo-Néerl. ii. p. 18 (1857), nec *C. longimanus*, Rumph.

An adult male without definite locality is in the collection, which I refer to this species. The gastric, cardiac, and branchial regions are very much elevated and indistinctly tuberculated; on the branchial regions one of the tubercles is much more prominent and obtuse. The rostrum is very prominent on its upper surface; and the interorbital space is deeply concave; the anterior legs are very robust, and the anterior and posterior margins of the arm and hand are armed with prominent, rounded, obtuse tubercles, of which there are only two or three on the posterior (or outer) margin of the hand. The ambulatory legs are smooth.

The specimen from the Philippine Islands designated *L. lamelliger* in the Museum collection is of small size, and the tubercles of the carapace and anterior legs are more acute and spine-like.

Bleeker's description of *L. Rumphii* also applies to this species; but the figure of Rumph (Amboin. Rariteit. p. 16, pl. viii. fig. 3), copied by Herbst (Nat. Krabben, i. p. 252, pl. xix. fig. 106), cited by Bleeker agrees far better with specimens from the Philippines in the Museum collection, named, perhaps wrongly, *Lambrus turritiger*, Ad. & White. This latter species is distinguished from the foregoing by having a long prominent spine on each of the regions of the carapace, and the subcylindrical anterior legs covered with small nearly uniform tubercles.

*Lambrus laciniatus*?

? *Lambrus laciniatus*, De Haan, Faun. Japon. Crust. p. 91, pl. xxii. figs. 2, 3 (1839).

A male, without definite locality, is in the collection. It

differs from De Haan's figure in having the spines of the posterior (or outer) margin of the palm somewhat fewer in number and broader at base, where they are almost in contact with one another; but I do not regard it as belonging to a distinct species.

CYCLOMETOPA *vel* CANCROIDEA.

*Atergatis floridus* (Linn.).

Java, Karangbollong (male and female); Amboina (young female).

*Atergatis integerrimus* (Lamarck).

Java (an adult female). Another specimen without locality is in the collection.

*Lophozozymus epheliticus* (Linn.).

Java (an adult male).

*Liomera Rodgersii*. (Pl. XIII. fig. 3.)

*Lachnopus Rodgersii*, Stimpson, Proc. Ac. Nat. Sci. Phil. p. 32 (1858); A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat. i. p. 233 (1865).

Carapace transverse, about once and a half as broad as long, smooth, glabrous, and shining, with the interregional sutures almost obsolete; the two posterior teeth of the anterolateral margins are the only ones developed, and are very obscurely marked and obtuse. The front is somewhat produced, and is divided by a median and two lateral incisions into four lobes, of which the two median are broad and truncated, and the lateral (or inner orbital lobes) are small and dentiform. On the upper orbital margin are three small obtuse teeth (including that of the outer orbital angle); the tooth at the inner and lower orbital angle is rather prominent. The merus-joint of the outer maxillipedes is rather small and transverse; and this joint has a shallow pit on its outer surface. The anterior legs (in the male) are robust, smooth; arm or merus-joint with a series of spinules on its upper margin; carpus smooth, with an antero-internal tooth; penultimate joint or palm slightly rugose externally, and with two longitudinal and parallel grooves on its outer surface; fingers short, robust, toothed on their inner margins and with the apices not excavated. The ambulatory legs are somewhat compressed and clothed with long fulvous hairs; their merus-joints are spinulose on the upper margins. The postabdomen of the male is five-jointed, the third to fifth joints

being coalescent. Length  $8\frac{1}{2}$  lines, breadth nearly 1 inch 1 line.

This species has been hitherto known only from the very short generic definition of Dr. Stimpson, which, however, embraces all the characteristic peculiarities of the species, and which agrees exactly with the example before me, except in one point. Stimpson says (*l. c.*), "Antennæ ut in *Carpilio*." In the specimen now before me the antennæ are of the same structure as in *Liomera*, the basal joint being very short and united at its summit to an inferior prolongation of the front, and not, as in *Carpilius*, joined to the front along its inner margin. I have little doubt that Stimpson erroneously wrote *Carpilius* for *Liomera*, as he does not say that *Lachnopus* is distinguished from *Liomera* by any peculiarity in the structure of the antennæ.

I do not think that *Lachnopus* is generically distinct, as Milne-Edwards has described a *Liomera* (*L. longimana*) with hairy ambulatory legs.

#### *Actæa Rüppellii*.

*Ægle Rüppellii*, Krauss, Südafrik. Crust. p. 28, pl. i. fig. 1 (1843).

? *Ægle rugata*, Adams and White, Zool. Samarang, Cr. p. 43, pl. viii. fig. 5 (1848).

*Actæa Rüppellii*, A. M.-Edwards, N. A. Mus. Hist. Nat. i. p. 270 (1865); Hilgendorf, Monatsb. Akad. Wissensch. Berlin, p. 787 (1878).

*Actæa rugata*, A. M.-Edwards, *l. c.* p. 269 (1869).

An adult male is in the collection, without definite locality, agreeing exactly with the figure of Krauss, and also with specimens in the Museum collection from the Mauritius. It is extremely probable that the *Ægle rugata* of White is, as noted by Hilgendorf, not specifically distinct, although the type specimen from the Philippines in the Museum collection has the lobules of the carapace covered with more numerous and smaller granules, and the chelipedes and legs are more densely hairy. But I see some reason to doubt the correctness of Hilgendorf's identification of Heller's *A. Kraussi* with the foregoing.

In specimens from Egypt in the Museum collection, which I refer to *A. Kraussi*, the carapace is wider in proportion to its length and less distinctly granulated. Both carapace and legs are much more densely pilose.

#### *Menippe (Myomenippe) panope*.

*Cancer panope*, Herbst, Nat. Krabben, iii. p. 40, pl. liv. fig. 5 (1801).

*Cancer Hardwickii*, Gray, Zool. Miscell. p. 40 (1831).

*Menippe granulosa*, Strahl, Arch. f. Nat. xxvii. p. 105 (1861); A. M.-Edwards, Ann. Soc. Entom. France, vii. p. 275 (1867)?

*Menippe panope*, v. Martens, Arch. f. Nat. xxxviii. p. 87 (1872).

*Mionemippe duplicidens*, Hilgendorf, Monatsb. Akad. Wissensch. Berlin, p. 796 (1878), footnote.

Java (an adult female of large size); Amboina (a male of smaller size).

The type of Gray's *C. Hardwickii* is from the Indian Ocean.

It is not without considerable hesitation that I have united the several species cited above under the heading of *C. panope*. The identification of Strahl's *Menippe granulosa* with Herbst's *C. panope* was made by Von Martens, after examination of the typical specimens; and the diagnosis of the latter author, as also the description by Hilgendorf of *M. duplicidens*, apply very well to the type of Gray's *C. Hardwickii* and the other specimens of this species in the Museum collection. The granulation of the sides of the carapace and bases of the fingers is somewhat less distinct in the specimens from Java and Amboina than in Gray's type; and it is possible that a larger series of specimens might establish a complete transition to the following species.

*Menippe (Myomenippe) Legouilloui*.

*Menippe Legouilloui*, A. M.-Edwards, Ann. Soc. Entom. France, vii. p. 274 (1867).

A male individual, without definite locality, is in the collection. It is distinguished mainly by the lesser prominence of the tubercles of the carapace and the absence of granulations on the upper surface of the wrist, palm, and base of mobile finger.

There is also a specimen from Swan River in the Museum collection.

*Myomenippe Fornasini*, Hilgendorf (Monatsb. Ak. Wissensch. Berlin, p. 795, 1878), from Mozambique, is evidently very nearly allied to this species; but I should hesitate to unite the two without comparison of specimens.

*Epixanthus dentatus*.

*Panopeus dentatus*, White, Proc. Zool. Soc. p. 226 (1847); Adams and White, Zool. Samarang, Crust. p. 41, pl. xi. fig. 1 (1848).

*Epixanthus dilatatus*, Man, Notes from the Leyden Museum (no. xix.), p. 58 (1879).

Java (an adult male and female).

These specimens agree very well with Mr. Man's description of *E. dilatatus* (also founded on specimens from Java), and with the types of *Panopeus dentatus*, excepting only that they present no trace of the variegated coloration of the



carapace, which is excellently preserved in White's specimen. The figure given by White, although very characteristic, represents the chelipedes in such a position as to conceal the characteristic tuberculation of the mobile finger of the larger hand and the slenderness of the fingers of the smaller one, on which account, perhaps, Mr. Man did not suspect their identity with his species.

*Carpilodes cinctimanus*.

*Carpilius cinctimanus*, White, Append. Juke's Voy. Fly, Crust. p. 336, pl. ii. fig. 3 (1847); Adams and White, Zool. Samarang, Cr. p. 37, pl. vii. fig. 4 (1848).

*Liomera cinctimana*, A. M.-Edw. Nouv. Arch. Mus. Hist. Nat. i. p. 219 (1865), ix. p. 176, pl. v. fig. 4 (1873).

? *Liomera lata*, Dana, Cr. U.S. Expl. Exp. xiii. p. 161, pl. vii. fig. 6 (1852).

A young male is in the collection, without definite locality. As has been already noted by Prof. A. Milne-Edwards, in the young of this species the hand is without the black cincture, and the fingers are whitish.

*Acteodes tomentosus* (M.-Edwards).

A male example is in the collection, without definite locality.

*Zozymus aeneus* (Linn.).

Java (a young male).

*Chlorodius niger* (Forskål).

New Guinea (one female).

*Leptodius exaratus*, var. *sanguineus* (M.-Edw.).

Java (an adult male).

The remarks made by me upon this species in Proc. Zool. Soc. 1877, p. 134, on specimens from Duke-of-York Island, apply equally well to the Javan example.

*Pilumnus vespertilio*.

*Cancer vespertilio*, Fabr. Ent. Syst. ii. p. 463 (1793), Suppl. p. 338 (1798).

*Pilumnus vespertilio*, Leach, Trans. Linn. Soc. xi. p. 321 (1815); M.-Edw. Hist. Nat. Crust. i. p. 418 (1834); Cr. in R. A. de Cuvier, Atlas, pl. xiv. fig. 3; Dana, U.S. Expl. Exp. xiii. Cr. i. p. 236 (1852); A. M.-Edw. N. Arch. Mus. Hist. Nat. ix. p. 242 (1873); Hilgendorf, Monatsb. Akad. Berlin, p. 793 (1878).

*Pilumnus ursulus*, Adams and White, Zool. Samarang, Cr. p. 45, pl. ix. fig. 6 (1848); Hess, Arch. f. Nat. p. 137, pl. vi. fig. 2 (1865).

*Pilumnus mus*, Dana, Pr. Ac. Nat. Sci. Phil. p. 82 (1852); U.S. Expl. Exp. xiii. Cr. i. p. 240 (1852).

Java (a female).

The hairs covering the body of this species vary from a deep brown to a fulvous or cinereous hue. The small tooth of the antero-lateral margins, situated anterior to and on a lower level than the first of the proper antero-lateral marginal teeth, and which is mentioned both by Milne-Edwards (in *P. vespertilio*) and Dana (in *P. mus*), is not invariably developed. This is a very common and generally distributed inhabitant of the Australian, Malaysian, and Pacific seas.

Kossmann (Zool. Ergebn. des rothen Meeres, Brachyura, p. 38, 1877) has recently subdivided the genus *Pilumnus* into three subgenera, based on characters derived from the presence or absence of fissures in the upper orbital margin. *P. vespertilio* belongs to the subgenus *Pilumnus* as restricted by him, as there are usually indications of two fissures in the upper orbital margin. I doubt, however, the constancy of these characters, or their validity as a means of separating the species, much as the genus *Pilumnus* requires subdivision into smaller groups.

*Pilumnus Bleekeri*, sp. n.

Carapace convex, with the antero-lateral margins shorter than the postero-lateral, and armed with five rather long spines (including the extraorbital spine); the spine next to this is placed on the subhepatic region. The body and legs are rather thinly clothed with long fulvous hairs; the front is divided by a rather wide and deep fissure into two truncated lobes. The orbits are armed with a series of prominent spinuliform teeth on their lower margins; but the upper margin is only minutely granulated, and is without fissures. The anterior legs are robust; the arm has three teeth on its upper margin; the wrist and palm are hairy; the palm is covered with rather irregularly-disposed granules on its outer surface, which toward the upper margin tend to become spinuliform; toward the lower margin the surface is smooth; but there is a line of granules on the lower margin of the hand. The fingers are short and thick, denticulated on their inner margins; the upper is granulated above at its base; the lower margin of the immobile finger forms a straight line with the inferior margin of the palm. Length 9 lines, breadth 11 lines.

New Guinea. Two males are in the collection. In the

larger, the fingers are of a chocolate-brown colour; in the smaller they are nearly colourless.

The truncated frontal lobes, with the armature of the carapace and chelipedes, apparently suffice to distinguish this species from its very numerous congeners. Many of the species of *Pilumnus*, however, are insufficiently known, and the genus is one which greatly needs a thorough revision. *P. Bleekeri* somewhat resembles *P. actumnoides*, A. Edw., which is represented as having the antero-lateral margins armed with more numerous teeth, and the hands more granulated on their external surface.

*Pilumnopus granulatus*, sp. n.  
(Pl. XIII. figs. 4, 5, 6.)

Carapace transverse, about once and a half as broad as long, and covered with small regularly disposed granules, which tend to become obsolete toward the posterior margin. Front rather prominent, divided by a small triangular median sinus into two lobes, the anterior margins of which are straight and rather oblique. Posterior to the frontal lobes, and occupying the interorbital space, are two small prominences. The antero-lateral margins are armed with five teeth (including the outer orbital tooth, which is very small); the orbital margins are without fissures, and the internal orbital hiatus is occupied by the outer antennæ, the basal joint of which is small and does not nearly reach the front. The anterior legs (in the female) are robust, the arm very short and smooth; the wrist regularly and evenly granulated on its outer surface, but without a spine at its antero-internal angle; palm covered on its outer surface with numerous granules; dactylus also granulated to within a short distance of its extremity; both this and the lower joint are strongly denticulated on their inner margins. Ambulatory legs slightly compressed and nearly smooth. Abdomen of female 7-jointed.

Indo-Malayan Region. One specimen of this very pretty little crab is in the collection; but the precise locality has not been preserved.

It must, I think, be included in *Pilumnopus* of A. Milne-Edwards, a genus which, to judge from the descriptions, can scarcely be distinct from *Eurycarcinus* of the same author. From *Sphærozius*, Stimpson, this species is distinguished by its much broader carapace; from *Actumnus*, Dana, by the same character, and by the brevity of the basal antennal joint.

*Eriphia levimana*.

*Eriphia levimana*, Latr. (ined.), Guérin, Icon. Cr. pl. iii. fig. 1; M.-Edwards, Hist. Nat. Cr. i. p. 427 (1834); Dana, Cr. U.S. Explor. Exp. xiii. i. p. 249, pl. xiv. fig. 7 (1852); Hilgendorf, Cr. in V. der Decken's Reise in Ost-Afrika, iii. p. 75 (1869); Monatsb. Ak. Berlin, p. 797 (1878); A. M.-Edwards, Nouv. Arch. Mus. Hist. Nat. ix. p. 255 (1873).

*Eriphia trapeziformis*, Hess, Arch. f. Naturg. p. 135, pl. vi. fig. 4 (1865).

A male and female specimen of this species, presenting all the characteristics of the typical form, are in the collection.

I unite with *E. levimana* the *Eriphia trapeziformis* of Hess, because there is nothing in the description and figure of the latter form to distinguish it specifically.

*Eriphia levimana*, var. *Smithii*.

*Eriphia Smithii*, M'Leay, Annulosa, in Smith's Illustr. Zool. S. Africa, p. 60 (1838); Krauss, Südl. Afrik. Crust. p. 36, pl. ii. fig. 3 (1843).

*Eriphia Fordii*, M'Leay, *l. c.* p. 60 (1838).

*Eriphia levimana*, var. *Smithii*, Hilgendorf, Monatsb. Akad. Berlin, p. 797 (1878).

New Guinea (an adult male).

The tuberculation of the chelipedes is subject to much variation according to Hilgendorf (*l. c.*), whom I follow in considering *E. Smithii* merely a variety of *levimana*, the series in the Museum collection not being large enough to show whether the differences between the two forms are constant.

I may note, however, that in two specimens (young male and adult female) from Natal, which I regard as typical conditions of *E. Smithii*, the surface of the larger chela is strongly granulated between the tubercles, which are rounded and not crowded, and occupy only the upper part of the outer surface; and the tubercles of the smaller hand are crowded and acute, and cover the whole of the outer surface of the hand. In the specimens from New Guinea, also a male from Zanzibar, a female from Dukhun (Deccan?), India, and in a young female received from the Paris Museum under the name of *E. rugosa*, M.-Edwards\*, the surface of the larger hand, between the tubercles (which are very faintly marked or obsolete), is smooth, and the tubercles of the smaller hand are less numerous and acute, and show a tendency to disposition in longitudinal series.

Of this form I have also seen a fine male from Pulo Sambu, Singapore, in a collection made by Surgeon-Major Samuel

\* I do not know that this name has ever been published.

Archer, A.M.D., and which is in process of determination by Mr. A. O. Walker, F.L.S. Were it not for its occurrence also at Zanzibar, I should have had little doubt of the distinctness of this variety from the *Smithii* of Natal.

*Trapezia cynodoce* (Herbst).

A male example from Amboina belongs to this species as I have characterized it (Ann. & Mag. Nat. Hist. ser. 5, ii. p. 408, 1878).

*Neptunus pelagicus* (Linn.).

Celebes, Badjoa (an adult male); Borneo, Bandjermasin (a smaller female).

*Neptunus trituberculatus*, Miers.

An adult male is in the collection, without special indication of locality.

*Neptunus sanguinolentus* (Herbst).

W. Borneo (a female); Bali (another female).

*Scylla serrata* (Forskâl).

Bali (a male example); W. Borneo (a young male, showing the rudimental condition of the rostral teeth characteristic of the young of this species).

*Podophthalmus vigil* (Fabr.).

Aroe Islands (an adult male in fine condition).

*Thalamita prymna* (Herbst).

A male is in the collection, without special indication of locality.

*Thalamita Stimpsoni*, A. M.-Edwards.

New Guinea (an adult female). A smaller individual, apparently not specifically distinct, is in the collection, from Amboina, in which the fourth lateral tooth is very nearly as large as the rest. It is very probable that Kossmann is right in uniting many species of this genus that, when fewer materials were available for comparison, were considered distinct.

*Goniosoma annulatum* (Fabr.).

Two females are in the Museum, without definite locality. I am not sure that *G. sexdentatum* is specifically distinct from

this ; at least I have seen specimens, apparently belonging to *G. annulatum*, in which the hand is slightly granulated above.

*Goniosoma anisodon*, De Haan.

A female specimen laden with ova is in the collection, also without definite locality.

[To be continued.]

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XXIV.—*On a supposed Pterobranchiate Polyzoon from Canada.* By the Rev. THOMAS HINCKS, B.A., F.R.S.

SOME years since, I received from my father, the late Professor Hincks, of University College, Toronto, a short notice of a Polyzoon which he had obtained in the neighbourhood of that city, but was unable to identify with any described form. Some of its characters were so remarkable and, at that time, so entirely without parallel, that I could not venture (in the absence of specimens) to publish an account of it or to give any opinion upon it. He had no further opportunity of investigating its history ; and, so far as I know, it has not been noticed since by any other observer.

Later discoveries, however, have supplied a clue to the interpretation of this aberrant type, in some particulars at least ; and reading my father's brief and popular diagnosis by their light, we may find in it the indication of a form which, though unique in some respects, has now its allies and its definite place in our system.

Under these circumstances I think it may be interesting and useful to publish some account of it (however imperfect), accompanied by my father's rough sketch of the polypide : it may stimulate those who have the opportunity to search for it, and possibly lead to its rediscovery.

The description given of it, so far as it goes, may, I have no doubt, be relied upon. Professor Hincks was not, indeed, in any special way a student of the Polyzoa ; but his knowledge of animal forms was extensive and accurate, and he was a practised and careful observer.

In a letter bearing date December 20, 1868, he writes :—  
“ I want your assistance in respect to a freshwater Polyzoon found in this neighbourhood, which I must attempt to describe to you. It was found attached to a sunken boat in the river Humber, which falls into Lake Ontario two or three miles west of Toronto.